

IN THE CLAIMS:

Claims 1 - 10(**canceled**).

1 11. **(NEW)**: A communications system for providing bi-directional data
2 communications on a backplane wherein the backplane includes a communications
3 channel, the system comprising:
4 a first transmitter module, coupled to the communications channel, to encode a first
5 user data stream into a first coded data stream and transmit the first coded data stream
6 through the communications channel, the first transmitter module includes equalization
7 circuitry having at least one tap wherein the tap includes an adjustable coefficient;
8 a first receiver module, coupled to the communications channel, to receive the first
9 coded data stream and to decode the first coded data stream into the first user data
10 stream;
11 a back channel, coupled to the first transmitter module and the first receiver module,
12 to provide back channel data from the first receiver module to the first transmitter module
13 wherein the back channel data includes information representative of the adjustable
14 coefficient.

1 12. **(NEW)**: The communications system of claim 11 wherein the back channel is
2 external from the communications channel.

1 13. **(NEW)**: The communications system of claim 11 wherein the back channel is a
2 shelf software loop.

1 14. **(NEW)**: The communications system of claim 13 wherein the shelf software
2 loop interrogates the first transmitter module and the first receiver module before providing
3 information representative of the adjustable coefficient.

1 15. **(NEW)**: The communications system of claim 11 wherein the back channel is
2 physically separate from the communications channel.

1 16. **(NEW)**: The communications system of claim 15 wherein the back channel
2 includes a software link that coordinates communications of information representative of
3 the adjustable coefficient between the first receiver module and the first transmitter module.

1 17. **(NEW)**: The communications system of claim 11 wherein the back channel is
2 incorporated into the bi-directional data communications on the backplane.

1 18. **(NEW)**: The communications system of claim 17 further including:
2 a second transmitter module, coupled to the communications channel, wherein the
3 second transmitter module encodes a second user data stream and the back channel data
4 into the second coded data stream and transmits the second coded data stream through
5 the communications channel; and

6 a second receiver module, coupled to the first transmitter module, to receive the
7 second coded data stream and decode the second coded data stream into the second user
8 data stream and the back channel data.

1 19. **(NEW):** A communications system for providing bi-directional data
2 communications on a backplane wherein the backplane includes a communications
3 channel, the system comprising:

4 a first transmitter module, coupled to the communications channel, to encode a first
5 user data stream into a first coded data stream and transmit the first coded data stream
6 through the communications channel, the first transmitter module includes an adaptive
7 transmit equalizer;

8 a first receiver module, coupled to the communications channel, to receive the first
9 coded data stream and to decode the first coded data stream into the user data stream,
10 wherein the first receiver module determines information which is representative of at least
11 one operating parameter of the adaptive transmit equalizer;

12 a second transmitter module, coupled to a back channel, to transmit the information
13 which is representative of the at least one operating parameter of the adaptive transmit
14 equalizer to the first transmitter module via the back channel.

1 20. **(NEW):** The communications system of claim 19 wherein the back channel is
2 external from the communications channel.

1 21. **(NEW):** The communications system of claim 19 wherein the back channel is a
2 shelf software loop.

1 22. **(NEW):** The communications system of claim 21 wherein the shelf software
2 loop interrogates the first transmitter module and the first receiver module before providing
3 information representative of the adjustable coefficient.

1 23. **(NEW)**: The communications system of claim 19 wherein the back channel is
2 physically separate from the communications channel.

1 24. **(NEW)**: The communications system of claim 23 wherein the back channel
2 includes a software link that coordinates communications of information representative of
3 the adjustable coefficient between the first receiver module and the first transmitter module.

1 25. **(NEW)**: The communications system of claim 19 wherein the back channel is
2 incorporated into the bi-directional data communications on the backplane and wherein the
3 system further includes a second receiver module, coupled to the first transmitter module,
4 to receive a second coded data stream, from the second transmitter module, and to decode
5 the second coded data stream into second user data stream and the information which is
6 representative of the at least one operating parameter of the adaptive transmit equalizer to
7 the first transmitter module via the back channel.